VOLKOVA, I.N.

Importance of adrenaline and lipokain in the synthesis of neural mediators and the regulation of the functional state of various innervation apparatuses. Nauch. trudy Kaz. gos. med. inst. 14: 135-137 '64. (MIRA 18:9)

1. Kafedra fiziologii (zav. - prof. I.N.Volkova) Kazanskogo meditsinskogo instituta.

VOLKOVA, I.N.; MAVRIN, M.I.

Effect of lipovain on the nervous regulation of the motor function of the ureters. Nauch. trudy Kaz. gos. med. inst. 14:139-140 '64.
(MIRA 18:9)

1. Kafedra normal'noy fiziologii (zav. prof. I.N.Volkova) i kafedra fakul'tetskoy khirurgii (zav. - prof. I.F.Kharitonov) Kazanskogo meditsinskogo instituta.

VOLKOVA, T.N.; LEPORINSKIY, Yu.N.

Effect of lipocaic on gastric secretion in dogs subjected to partial pancreatectomy. Fiziol. zhur. 49 no.8:976-983 Ag '63. (MIRA 17:2)

1. From the Department of Physiology, Medical Institute, Kazan.

VOLKOVA, I.N., prof. (Kazan'); SHCHERBATENKO, S.I., dotsent (Kazan')

Scientific conference on the problem "Catechol amines and their role in the regulation of the functions of the body." Kaz. med. zhur. 4:89-92 Jl-Ag'63 (MIRA 17:2)

VOLKOVA, I.N., prof. (Kazan')

Scientific work of Academician K.M.Bykov; on the 75th anniversary of his birth. I.N. Volkova. Kaz. med. zhur. no.1:3-6 Ja-F'61 (MIRA 16:11)

*

VOLKOVA, I.N.; LEBEDEV, K.V.; TUKHVATULLINA, L.V.

Influence of X-rays on the process of formation of a mediator in the sympathetic nervous system. Biul. eksp. biol. i med. 52 no.9:37-39 S '61. (MIRA 15:6)

1. Iz kafedry normal'noy fiziologii (zav. - prof. I.N. Volkova) i kafedry radiorentgenologii (zav. - prof. M.I. Gol'dshteyn) Kazanskogo meditsinskogo instituta. Predstavlena deystvitel'nym chlenom AMN SSSR A.V. Lebedinskim.

(SYMPATHINS)
(X RAYS—PHYSIOLOGICAL EFFECT)
(NERVOUS SYSTEM, SYMPATHETIC)

VOLKOVA, I.N., prof. (Kazan')

Second Volga Valley Conference of Physiologists, Biochemists and Pharmacologists with the Participation of Morphologists and Clinicians (Kazan, May 29 - June 3, 1961). Kaz. med. zhur. no.2:91-94 Mr-Ap '62. (MIRA 15:6)
(MEDICINE--CONGRESSES)

VOLKOVA, I.N.; KOCHNEV, O.S.

Effect of lipocaic on the cholinergic reaction of blood in dogs subjected to partial extirpation of the pancreas. Biul. eksp. biol. i med. 49 no. 4:41-44 Sp '60. (MIRA 13:10)

1. Iz kafedry fiziologii (zav. - doktor meditsinskikh nauk I.N. Vokova) Kazanskogo meditsinskogo instituta.
(PANCREAS—SURGERY) (LIPOCAIC) (CHOLINESTERASE)

VOLKOVA, I.N.; DENISENKO, Ya.I.

Kinetics of corn oil hydrogenation. Izv.vys.ucheb.zav.; pishch.tekh. no.4:83-85 '59. (MIRA 13:2)

1. Moskovskiy tekhnologicheskiy institut pishchevoy promyshlennosti. Kafedra organicheskoy khimii.
(Corn oil) (Hydrogenation)

DENISENKO, Ya.I.; VOLKOVA, I.N. [deceased]

Spectrophotometric determination of linoleic and linolenic acids in corn and sorghum oils. Izv. vys. ucheb. zav.; pishch. tekh. no.3:28-30 '60. (MIRA 14:8)

1. Moskovskiy tekhnologicheskiy institut pishchevoy promyshlennosti, Kafedra organicheskoy khimii.
(Corn oil--Analysis) (Sorghum)

VOLKOVA, I.P.

Injuries to young pine growth by Pissodes weevils in Karelia. (MIRA 14:9)
Trudy Kar. fil. AN SSSR no.25 '61.
(Karelia--Weevils) (Pine--Diseases and pests)

VOLKOVA, I.V.

Resistance of metals in a great current density. Priroda 42 no.8:91 Ag '53. (MLRA 6:7)
(Electric resistance)

VOLKOVA, IKHA

E-3

Czechoslovakia / Analytical Chemistry.
Analysis of Organic Substances.

Abs Jour: Ref. Zhur - Khimiya No. 2, 1958, 4348

Author : Volkova, IKha

Title : The Polarographic Determination of Bromoform in Drugs

Orig Pub: Geskosl. farmae., 1957, 6, No. 3, 141-145

Abstract: In the reduction of bromoform (1) in aqueous-alcoholic solutions on the dropping Hg electrode at pH > 4 two reduction waves are observed corresponding to the formation of CH_2Br_2 and CH_3Br. The determination of (1) in drugs is based on the method of standard additions since the height of the waves is in linear relation to the concentration of (1). The passing of nitrogen through the

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Abs Jour: Ref. Zhur - Khimiya No. 2, 1958, 4348

solutions of (1) for removal of O_2 leads to large losses of (1) through volatilization. Therefore, the determination is carried out in the presence of Na_2SO_3 (11). In the analysis of drugs which do not contain sugar 2-10 ml. volumetric flasks are used. Into each of them 2.5 ml of 0.4M NaBr, 0.25 ml. of a freshly prepared saturated solution of (11) and 0.5-1.0 ml. of the sample is transferred. Then to the first flask, 0.5-1.0 ml. of the standard alcohol solution of (1) is added (80 mg. of (1) in 25 ml. of 96% alcohol); to the second flask, the same amount of 100% alcohol and both flasks are made up to volume with water. The solutions are set aside for 5-10 minutes to tie up the O_2 and then the polarogram is taken.

Card 2/2

VOLKOVA, I.N.

Role of acetylcholine in changes in the lability of spinal centers [with summary in English]. Fiziol. zhur. 44 no.3:187-193 Mr '58. (MIRA 11:4)

1. Kafedra fiziologii Meditsinskogo instituta, Kazan'.

(ACETYLCHOLINE, metabolism
impaired synthesis causing alterations in activity of spinal cord nerve centers (Rus)
(SPINAL CORD, physiology
spinal center activity, alterations caused by impaired synthesis of acetylcholine in dogs (Rus)

VOLKOVA, I.M., inzh.; DENISENKO, Ya.I., doktor khim. nauk.

Hydrogenation of corn oil. Masl.-zhir. prom. 24 no.3:17-18 '58.
(MIRA 11:4)

1. Moskovskiy tekhnologicheskiy institut pishchevoy promyshlennosti.
(Corn oil) (Hydrogenation)

VOLKOVA, I. O.

BELONOZHKO, V.M., kand.med.nauk; PRIMAK, V.M.; KUMPAN, K.O.; CHUPRINA, K.F.; ZANOZDRA, M.S.; VOLKOVA, I.O.

Role of oxygen therapy in controlling a hypotensive syndrome. Medych. zhur. 21 no.6:44-54 '51. (MIRA 11:1)

1. Z viddilu funktsional'noi terapii (zav. - prof. F.Ya.Primak) Ukrains'kogo institutu klinichnoi meditsini (direktor - akad. M.D.Strazhesko)

(HYPOTENSION) (OXYGEN--THERAPEUTIC USE)

VOLKOVA, I.P.

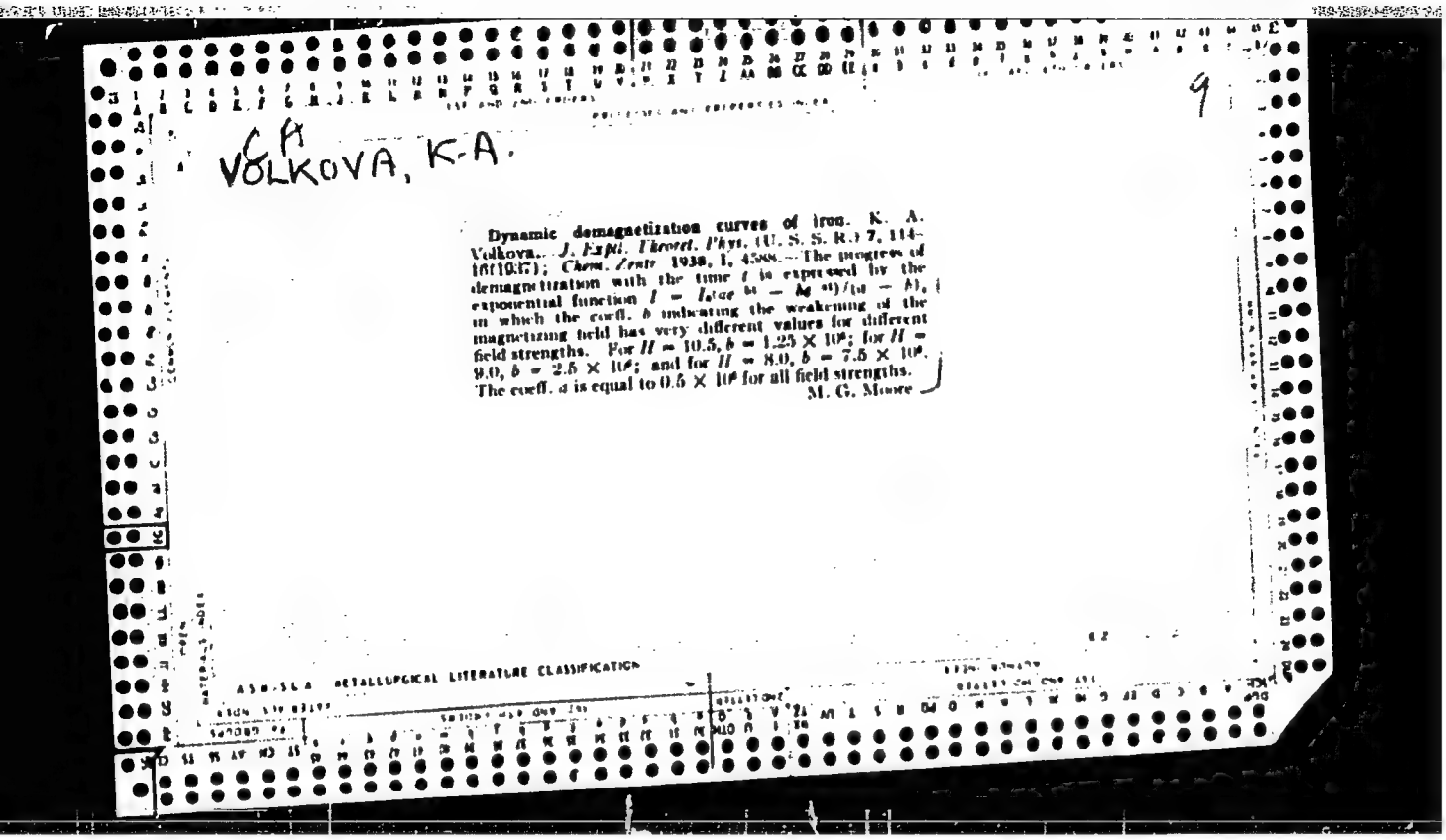
Biology of the weevil Pissodes notatus F. in Karelia. Trudy Kar. fil. AN SSSR no.25:134-140 '61. (MIRA 14:9)
(Karelia--Weevils)

SHIPEROVICH, V.Ya.; YAKOVLEV, B.P.; VOLKOVA, I.P.

How pine weevil (Hylobius abietis L.) affects the regeneration of conifers on areas of clearcutting in Karelia. Trudy Kar.fil. AN SSSR no.16:94-109 '59. (MIRA 13:4)
(Karelia--Pine--Diseases and pests)

VOLKOVA, K.

Nikolai-Nikolaevich Anichkov; on his 75th birthday. Pat.fiziol.i eksp.terap. 5 no.1:92-93 Ja-F '61. (MIRA 14:6)
(ANICHKOV, NIKOLAI NIKOLAEVICH, 1885-)



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VOLKOVA, K-A.

Dynamic demagnetization curves of iron. K. A. Volkova. *J. Expll. Theoret. Phys.* (U. S. S. R.) 7, 114–16(1937); *Chem. Zentr.* 1938, I, 4588.—The progress of demagnetization with the time t is expressed by the exponential function $I = Ie^{(a - b\sqrt{a})/(a - b)}$, in which the coeff. b indicating the weakening of the magnetizing field has very different values for different field strengths. For $H = 10.5$, $b = 1.25 \times 10^6$; for $H = 9.0$, $b = 2.5 \times 10^6$; and for $H = 8.0$, $b = 7.5 \times 10^6$. The coeff. a is equal to 0.5×10^6 for all field strengths.
M. G. Moore

ASM-SLA METALLURGICAL LITERATURE CLASSIFICATION

VOLKOVA, K.A.; GAUKHMAN, R.P.; GALKIN, I.S., prof., otv.red.; KUDRYAVTSEVA, A.I., red.; FEDOROV, I.V., dotsent, red.; BLANK, Ye.Ye., bibliograf-redaktor

[Aleksandra Andreevna Glagoleva-Arkad'eva, 1884-1945; a biographical sketch] Aleksandra Andreevna Glagoleva-Arkad'eva, 1884-1945; biograficheskii ocherk. Sost.K.A.Volkova. Moskva, 1947. 31 p. (MIRA 12:6)

1. Moscow. Universitet. Biblioteka.
(Glagoleva-Arkad'eva, Aleksandra Andreevna, 1884-1945)

Volkova, K. A.

USSR

533.221

10315. Ferromagnetic properties in millimetre waves. V. K. ARKAD'EV AND K. A. VOLKOVA. Letter in *Zh. eksper. teor. Fiz.*, 24, No. 4, 501 (1953) *In Russian.*

Short sections of Fe and Ni wires of 1 mm diam. were placed in the focus of a concave mirror converging the waves of a mass emitter. Fe showed resonance with 2·4 mm, Ni with 5·3 mm waves. At the same time a magnetic field was applied parallel to the resonators, and the field intensity was determined, at which the wires were raised to the highest temperature; this maximum points to μ_R, i.e. to the fact that the electric resonator at the same time resonates with the magnetic field of electric oscillations generated in the resonator.

F. LACHMAN

RDW

VOLKOVA, KA.

Wireless Engineer
June 1954
Materials and Subsidiary Techniques

(1)

- Ferromagnetic Resonance using Waves from a Mass Emitter.—K. A. Volkova. (*C. R. Acad. Sci. U.R.S.S.*, 1st April 1953, Vol. 89, No. 4, pp. 655 658. In Russian.) Measurements were made of the heat dissipated in Fe and in Ni specimens subjected to a steady magnetic field of 100-13 500 oersted and a superimposed h.f. field of mean frequency variable between 21·4 and 125 kMc/s. The latter field was produced by the wide-band mass emitter described by Glagoleva-Arkad'eva (2106 of 1943). The experimental results are shown graphically. Ferromagnetic dispersion is briefly discussed.

19/4/54

VOLKOVA, K. D.

Weaving

Reduction of waste in weaving., Tekst. prom., No. 1, 1952.

9. Monthly List of Russian Accessions, Library of Congress, March 1952 ~~1953~~, Uncl.

VOLKOVA, K. G.

Anichkov, N. N., Volkova, K. G., and Zakhar'yevskaya, M. A. "The pathological anatomy of hypertonic disease", Trudy Chetvertoy sessii Akad. med. nauk SSSR, Moscow, 1948, p. 18-29.

SO: U-2888, 12 Feb. 53, (Letopis' Zhurnal 'nykh Statey, NO. 2, 1949).

VOLKOV, K. G.

37584. Ateroskleroz Koronarnykh arteriy serotsa. Novosti meditsiny, Vyp. 15, 1949 S. 1-6

SO: Letopis' Zhurnal'nykh Statey, Vol. 37, 1949

VOLKOVA, K. G.

ANICHKOV, N.N.; VOLKOVA, K.G., GARSHIN, V.G.

Wound healing following primary surgical therapy. Arkh.pat., Moskva 12 no.2:12-18 Mar-Apr 50. (CIML 19:4)

1. Of the Department of Pathological Anatomy (Head -- Academician N.N.Anichkov) of the Institute of Experimental Medicine AMS USSR, Leningrad.

VOLKOVA, K.G.

Changes in the arterioles of the internal organs in hypertension; elastic hyperplasia of the intima. Arkh. pat., Moskva 14 no. 2:53-62 Mar-Apr 1952. (CLML 22:5)

1. Of the Department of Pathological Anatomy (Head -- Academician N. N. Anichkov), Institute of Experimental Medicine of the Academy of Medical Sciences USSR.

VOLKOVÁ, K. G.

Aorta

Critical considerations on D. SINAFYUS' article "Development of early atherosclerotic changes of the aorta." Arkhiv pat. 14 no. 3:89-90 My-Je '52.

Monthly List of Russian Accessions, Library of Congress, December 1952. Unclassified.

VOLKOVA, K. G.

Moshkovich, E.

Critical considerations on E. Moshkovich's article "Hyperplastic arteriosclerosis or atherosclerosis." Arkhiv pat. 14, no. 3, 1952.

Monthly List of Russian Accessions, Library of Congress, December 1952. Unclassified.

VOLKOVA, K.G., professor.

Scientific conference on the problem of atherosclerosis. Vest. AMN SSSR no.1:44-46 Ja-Mr '53. (MLRA 6:7)
(Arteriosclerosis)

VOLKOVA, K.G. (Leningrad).

Critical considerations on articles by Duignid and certain other foreign authors on atherosclerosis. Arkh.pat. 15 no.3:71-72 My-Je '53.
(MLRA 6:11)
(Arteriosclerosis)

VOLKOVA, K.G., professor.

Present state of the problem of the pathogenesis of atherosclerosis. Klin. med. 31 no.3:17-23 Mr '53. (MLRA 6:5)
(Arteriosclerosis)

VOLKOVA, K.G.

[Atherosclerosis and its prevention] Ateroskleroz i ego preduprezhdenie. Moskva, Medgiz, 1954. 30 p. (MLRA 7:11)
(Arteriosclerosis)

Volkova N. G.

VOLKOVA, K.G., professor.

[Experimental atherosclerosis"]Katz and Stamler. Reviewed by K.G.Volkova. Arkh.pat. 17 no.3:75-78 Jl-S '55. (MLRA 8:12)
(ARTERIOSCLEROSIS) (KATZ, LOUIS NELSON, 1897)
(STAMLER, JEREMIAH, 1919)

ANICHKOV, N.N.,; VOLKOVA, K.G.

Modifications of structural elements of the aortic wall as a reaction in experimental lipoidosis in rabbits. Arkh. anat. gist. i embr. 32 no.3:41-47 Jl-S '55. (MLRA 9:5)

1. Iz Otdela patologicheskoy anatomii Instituta eksperimental'noy meditsiny AMN SSSR.

(LIPOIDOSIS, experimental,
aortic pathol. in)
(AORTA, pathology,
in expe. lipoidosis)

USSR / Human and Animal Morphology, Normal and Pathologic -- Cardiovascular System S-4

Abs Jour: Ref Zhur-Biol., No 13, 1958, 59844

Author : Volkova, K. G.

Inst : Institute of Experimental Medicine

Title : Inflammatory Signs Present with Atherosclerotic Plaques of the Coronary Arteries

Orig Pub: Yezhegodnik, In-t eksperim. med. Akad. med. nauk SSSR, 1955, L., 1956, 349-353

Abstract: In the presence of sharply expressed sclerotic plaques with a high lipid content, the tunica externa of the coronary arteries are densely infiltrated with lymphoid elements, which are also often observed, although to a lesser extent, in

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USSR / Human and Animal Morphology, Normal and Pathologic -- Cardiovascular System S-4

Abs Jour: Ref Zhur-Biol., No 13, 1958, 59844

the loose perivascular fatty tissue. Polyblasts also appear in the tunica externa. When saponified lipids and cholesterol are present in the plaques, the polyblasts are particularly numerous. The polyblasts, gradually spreading out, infiltrate the plaques (and usually the blood vessels, simultaneously). Here, they resorb the lipid deposits, the cholesterol and the lime. Lacunae are formed in the focus of calcification, causing the focus to slowly melt in a way similar to the lacunar resorption of bone. The inflammatory reaction of the tunica externa of the coronary arteries, which subsequently passes into the deep layers of the atherosclerotic plaques, is the reaction in response to the lipid deposits in the plaques._Ye. V. Ryzhkov

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VOLKOVA, K.G. (Leningrad)

Morphology and morphogenesis of coronary atherosclerosis and its role in the development of secondary myocardial changes. Klin. med. 34 no.5:12-18 My '56. (MIRA 9:10)

(CORONARY DISEASES,
arteriosclerosis, secondary myocardial changes (Rus))
(ARTERIOSCLEROSIS,
coronary, secondary myocardial changes (Rus))

VOLKOVA, Kapitolina Grigor'yevna

[Atherosclerosis and its prevention] Ateroskleroz i ego preduprezhdenie. Moskva, Medgiz, 1957. 33 p.
(MIRA 13:12)

(ARTERIOSCLEROSIS)

VOLKOVA K.G.

ANICHKOV, N.N., akademik; VOLKOVA, K.G.; KIKAYON, E.E. (Leningrad)

Occlusive atherosclerosis of the coronary arteries and its sequelae in myocardial blood supply [with summary in English]. Pat.fiziol. i eksp.terap. 1 no.6:3-9 N-D '57. (MIRA 11:3)

1. Iz otdela patologicheskoy anatomii (zav. - akad. N.N.Anichkov) Instituta eksperimental'noy meditsiny AMN SSSR.
(CORONARY DISEASE pathology
arteriosclerosis (Rus))

VOLKOVA, K.G., professor

Letter to the editors. Klin.med. 35 no.6:157 Je '57. (MLRA 10:8)
(ARTERIOSCLEROSIS) (HEART--INFARCTION)

VOLKOVA, K.G.

Arterioles of the myocardium in hypertension. Arkh. pat. 22 no. 11:13-18 '60. (MIRA 14:1)
(HYPERTENSION) (CORONARY HEART DISEASE)

LOVYAGINA, T.N.; VOLKOVA, K.G.

Experimental data on the significance of a sustained milk diet in the development of hypercholesteremia and atherosclerosis of the arteries. Kardiologiia 2 no.1:13-21 Ja-F '62. (MIRA 15:5)

1. Iz otdela patologicheskoy anatomii (zav. - akademik N.N.Anichkov) Instituta eksperimental'noy meditsiny AMN SSSR.
(CHOLESTEROL METABOLISM) (ARTERIOSCLEROSIS)
(MILK AS FOOD)

VOLKOVA, K.G.

Comparative assay of the methods determining the degree of the development of experimental atherosclerosis. Trudy Inst. klin. i eksper. kard. AN Gruz. SSR 8:131-136 '62. (MIRA 17:7)

1. Iz otdela patologicheskoy anatomii Instituta eksperimental'noy meditsiny AMN SSSR, Leningrad.

VOLKOVA, K.I., prof. (Leningrad); DANILOVA, K.M., doktor med. nauk (Moskva); SMOLICHEVA, Ye.P., kand. med. nauk; MONASTYRSKAYA, B.I., prof.

Report on conferences. Arkh. pat. 26 no.4:86-93 '64. (MIRA 18:7)

1. Predsedatel' Nauchnogo obshchestva patologoanatomov, sudebnykh medikov i kriminalistov, Dushanbe (for Monastyrskaya). 2. Sekretar' Nauchnogo obshchestva patologoanatomov, sudebnykh medikov i kriminalistov, Dushanbe (for Smolicheva).

VOLKOVA, K.G.

Comparative appraisal of the methods of evaluating the degree of development of experimental atherosclerosis. Cor vasa 5 no.1:53-61 '63.

1. Departement d'anatomie pathologique de l'Institut de Medicine Experimentale de l'Academie des Sciences Medicales de l'URSS, Leningrade.
(ARTERIOSCLEROSIS) (BLOOD CHOLESTEROL) (AORTA)
(CHOLESTEROL) (CHOLINE) (LIPIDS)

VOLKOVA, K.I.; LIVSHITS, B.S.

[Automatic telephone systems for institutions] Uchrezhdencheskie avtomaticheskie telefonnye stantsii. Moskva, Gos. izd-vo lit-ry po voprosam sviazi i radio, 1952. 77 p.------ [Principal diagrams] Printsipial'nye skhemy. 17 diagrams. (MLRA 10:3)
(Telephone, Automatic)

VOLKOVA, K.I. (Leningrad)

Diffuse interstitial pulmonary fibrosis (Hamman-Rich syndrome). Klin.med. 39 no.4:68-74 '61. (MIRA 14:4)

1. Iz kafedry tuberkuleza (zav. - prof. A.Ya. TSigel'nik) I Leningradskogo meditsinskogo instituta imeni I.P. Pavlova (dir. A.I. Ivanov) i statsionara protivotuberkuleznogo dispansera No.3 (glavnyy vrach A.L. Kudravtseva).
(PULMONARY FIBROSIS)

22821
S/170/61/004/005/004/015
B104/3205

11.9100

AUTHOR: Volkova, K. K.

TITLE: Regular thermal conditions in a cylinder

PERIODICAL: Inzhenerno-fizicheskiy zhurnal, v. 4, no. 5, 1961, 21-26

TEXT: The author carries out an upper and a lower estimation of the remainder of a solution represented as a problem of heat conduction. This estimation makes it possible to determine the time required for establishing regular conditions in an infinitely long cylinder or in a part thereof. For a constant initial temperature u_0 and under the boundary conditions $(\partial u/\partial n + \alpha u)_{r=r_0} = 0$, the solution of the equation of heat conduction has the form

$$u(r, t) = 2u_0 \mathrm{Bi}^2 \sum_{m=1}^{\infty} \frac{I_0\left(\mu_m^* \frac{r}{r_0}\right) \exp\left(-\mu_m^{*2} \mathrm{Fo}\right)}{\mu_m^* \left(\mu_m^{*2} + \mathrm{Bi}^2\right) I_1\left(\mu_m^*\right)}, \quad (2),$$

where $\left\{\mu_m^{(0)}\right\}$ are the roots of the equation $I_0(\mu) = 0$, and $\left\{\mu_m^*\right\}$ the roots of

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Regular thermal conditions in a cylinder

the equation $\left\{\mu I_0'(\mu \frac{r}{r_0}) + \alpha r_0 I_0(\mu \frac{r}{r_0})\right\}_{r=r_0} = 0$, m = 1,2,...; $I_0(\mu)$ is the Bessel function of first kind. In estimating the remainder $R_{m=2}$ of this series, the following representation is obtaind:

$$R_{m=2} = 2u_0 Bi^2 \sum_{m=2}^{\infty} \frac{(-1)^{m+1} J_0\left(\mu_m^* \frac{r}{r_0}\right) \exp\left(-\mu_m^{*2} Fo\right)}{\mu_m^*\left(\mu_m^{*2} + Bi^2\right)\left|J_1\left(\mu_m^*\right)\right|} =$$

$$= 2u_0 Bi^2 \sum_{k=0}^{\infty} (-1)^k \frac{1}{(k!)^2}\left(\frac{r}{2r_0}\right)^{2k} \sum_{m=2}^{\infty} \frac{(-1)^{m+1} \mu_m^{*2k} \exp\left(-\mu_m^{*2} Fo\right)}{\mu_m^*\left(\mu_m^{*2} + Bi^2\right)\left|J_1\left(\mu_m^*\right)\right|} =$$

$$= 2u_0 Bi^2 \sum_{l=0}^{\infty} \frac{1}{[(2l)!]^2}\left(\frac{r}{2r_0}\right)^{4l} \sum_{m=2}^{\infty} \frac{(-1)^{m+1} \mu_m^{*4l} \exp\left(-\mu_m^{*2} Fo\right)}{\mu_m^*\left(\mu_m^{*2} + Bi^2\right)\left|J_1\left(\mu_m^*\right)\right|} + \qquad (A)$$

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Regular thermal conditions in a cylinder

$$+ 2u_0 \mathrm{Bi}^2 \sum_{l=0}^{\infty} \frac{1}{[(2l+1)!]^2} \left(\frac{r}{2r_0}\right)^{2(2l+1)} \sum_{m=2}^{\infty} \frac{(-1)^m \mu_m^{*2(2l+1)} \exp\left(-\mu_m^{*2}\mathrm{Fo}\right)}{\mu_m^{*}\left(\mu_m^{*2}+\mathrm{Bi}^2\right)\left|J_1\left(\mu_m^{*}\right)\right|}.$$

The series summed over m belong to the type of Leibniz series. Therefrom,

$$R_{m=2} < 2u_0 \mathrm{Bi}^2 \left\{ - \sum_{l=0}^{\infty} \frac{1}{[(2l)!]^2} \left(\frac{r}{2r_0}\right)^{4l} \frac{\mu_2^{*4l} \exp\left(-\mu_2^{*2}\mathrm{Fo}\right)}{\mu_2^{*}\left(\mu_2^{*2}+\mathrm{Bi}^2\right)\left|J_1\left(\mu_2^{*}\right)\right|} + \right.$$

$$+ \sum_{l=0}^{\infty} \frac{1}{[(2l)!]^2} \left(\frac{r}{2r_0}\right)^{4l} \frac{\mu_3^{*4l} \exp\left(-\mu_3^{*2}\mathrm{Fo}\right)}{\mu_3^{*}\left(\mu_3^{*2}+\mathrm{Bi}^2\right)\left|J_1\left(\mu_3^{*}\right)\right|} +$$

$$\left. + \sum_{l=0}^{\infty} \frac{1}{[(2l+1)!]^2} \left(\frac{r}{2r_0}\right)^{2(2l+1)} \frac{\mu_2^{*2(2l+1)} \exp\left(-\mu_2^{*2}\mathrm{Fo}\right)}{\mu_2^{*}\left(\mu_2^{*2}+\mathrm{Bi}^2\right)\left|J_1\left(\mu_2^{*}\right)\right|} \right\} =$$

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Regular thermal conditions in a cylinder

$$\left| -2\mu_0 Bi^2 \left\{ \sum_{l=0}^{\infty} \frac{1}{[(2l)!]^2} \left(\frac{r}{2r_0}\right)^{4l} \mu_3^{*4l} \frac{\exp\left(-\mu_3^{*2} Fo\right)}{\mu_3^* \left(\mu_3^{*2} + Bi^2\right) \left| J_1\left(\mu_3^*\right)\right|} - \right.\right.$$

$$\left.\left. - \frac{J_0\left(\mu_2^* \frac{r}{r_0}\right) \exp\left(-\mu_2^{*2} Fo\right)}{\mu_2^* \left(\mu_2^{*2} + Bi^2\right) \left| J_1\left(\mu_2^*\right)\right|} \right\} \right| \qquad (9)$$

is obtained for the upper estimate, and

$$R_{m-2} > 2\mu_0 Bi^2 \left\{ - \sum_{l=0}^{\infty} \frac{1}{[(2l+1)!]^2} \left(\frac{\mu_3^* r}{2r_0}\right)^{2(2l+1)} \frac{\exp\left(-\mu_3^{*2} Fo\right)}{\mu_3^* \left(\mu_3^{*2} + Bi^2\right) \left| J_1\left(\mu_3^*\right)\right|} - \right.$$

$$\left. - \frac{\exp\left(-\mu_2^{*2} Fo\right) J_0\left(\mu_2^* \frac{r}{r_0}\right)}{\mu_2^* \left(\mu_2^{*2} + Bi^2\right) \left| J_1\left(\mu_2^*\right)\right|} \right\} \qquad (13)$$

Card 4/6

Regular thermal conditions in a cylinder

and

$$\sum_{l=N}^{\infty} \frac{1}{[(2l+1)!]^2} \left(\frac{\mu_3 r}{2r_0}\right)^{2(2l+1)} < \left(\frac{\mu_3 er}{26r_0}\right)^{26} \frac{1}{1-\left(\frac{\mu_3 er}{26r_0}\right)^4}. \qquad (14)$$

for the lower one. Estimates made for different Bi and Fo are graphically represented in Fig. 2. The results obtained here do not disagree with those of B. N. Oleynik (Trudy LITMO, no. 37, 1959). The time needed to obtain regular conditions is estimated on the basis of this remainder estimation. It is assumed that regular conditions are obtained if $\mathrm{mod}(R_{m=2}/(R_{m=1} - R_{m=2}) = 0.01$. It is shown that for $r/r_0 = 0.59$ regular conditions are already attained when $Fo \geq 0.069$, and for $r/r_0 = 0.8$ when $Fo \geq 0.1088$. There are 2 figures and 5 Soviet-bloc references.

ASSOCIATION: Gosudarstvennyy universitet, g. Voronezh (State University, Voronezh)

SUBMITTED: September 6, 1960

Card 5/6

VOLKOVA, K. K.

"A Regular Thermal Regime in Bodies With Anarbitrary Cylindrical Form."

Report submitted for the Conference on Heat and Mass Transfer, Minsk, BSSR, June 1961.

VOLKOVA, K. K.

"Regular heat conditions in right cylindrical bodies."

Report presented at the 1st All-Union Conference on Heat- and Mass-Exchange, Minsk, BSSR, 5-9 June 1961.

BELOV, K.A.; VOLKOVA, O.B.; MAKSIMOVA, M.I.

Production of surface active agents from the Shebelino gas condensate. Khim.i tekh.topl.i masel 5 no.8:34-37 Ag '60. (MIRA 13:8)

1. Khar'kovskiy politekhnicheskiy institut im. V.I.Lenina.
(Shebelino region—Condensate oil wells)
(Surface active agents)

SOV/112-57-6-12198

Translation from: Referativnyy zhurnal. Elektrotekhnika, 1957, Nr 6, p 73 (USSR)

AUTHOR: Volkova, K. N.

TITLE: On the Problem of "Vilit" Aging (K voprosu o starenii vilita)

PERIODICAL: Sb. nauch. tr. Kuybyshevsk. industr. in-t, 1956, Nr 6, Vol 1, pp 151-156

ABSTRACT: An opinion has been expressed that aging of "vilit" disks is a gradual process, i.e., at every passage of current through the disk, irreversible changes occur. These changes accumulate and eventually can cause a disk breakdown. To test this belief, black carborundum powder pressed under 140 kg/cm^2 was investigated. Currents of 1 to 5,000 amp were used in the study. These corresponded to a current density of 0.05-250 amp/cm^2 or corresponded to currents of 4-20,000 amp in the standard 75 cm^2 disk. The phenomena were recorded by an electron oscillograph. It was found that past electrical stresses do not influence the powder characteristics for higher-amplitude impulses. The carborundum-powder aging is a stabilization process with respect to

Card 1/2

On the Problem of "Vilit" Aging

currents of equal or lesser amplitude than its aging impulse. With respect to a high-amplitude current impulse, the powder behaves as if it were fresh. It has also been found that the powder-characteristic changes occur only if the current amplitude exceeds a certain limit value that depends on the pressure used to compact the powder, on the granulometric composition of the powder, and on the kind of carborundum; so far, it is hard to give a comprehensive physical explanation of this phenomenon. It is recommended that during the production process, a stabilizing-impulse amplitude be selected corresponding to the probable maximum discharge current for the type of arrester in question. It is expedient to introduce periodic checks of machine-current values during actual service of the arresters. Bibliography: 3 items.

A.V.S.

VOLKOVA, K. N.

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So: SUM 168, 22 July 1954

VOLKOVA, K.N.

Conductance mechanism of carborundum powder. Trudy LPI no.195: 564-577 '58. (MIRA 11:10)
(Electric conductivity) (Silicon carbide)

VOLKOVA, K.N., insh.

Conference on the manufacture of aluminum winding wire and its use in the manufacture of electric machines, transformers, and apparatus. Vest.elektroprom. 31 no.2: 73-80 F '60. (MIRA 13:6)
(Electric wire)

PAVLOV, S.F.; VOLKOVA, K.P.

The Neryunda iron deposit. Geol.i geofiz. no.5:56-61 '62.
(MIRA 15:8)

1. Vostochno-Sibirskiy geologicheskiy institut Sibirskogo otdeleniya AN SSSR, Irkutsk.
(Neryunda Valley--Iron ores)

VOLKOVA, K.I.; LIVSHITS, B.S.

[Automatic telephone exchanges] Uchrezhdencheskie avtomaticheskie telefonnye stantsii. Moskva, Gos.izd-vo lit-ry po voprosam sviazi i radio, 1952. 77 p. (MLRA 6:7)
(Telephone, Automatic)

NECHAYEV, K.A.; NOVOSLAVSKAYA, O.Ya.; FROLOV, K.M.; KHANINSON, Ya.G.; VOLKOVA, K.V., red.; VOROTILINA, L.I., tekhn. red.

[Novosibirsk; notable places and sights] Novosibirsk; pamiatnye mesta i dostoprimechatel'nosti. Novosibirsk, Novosibirskoe knizhnoe izd-vo, 1961. 174 p. (MIRA 15:8)
(Novosibirsk--Guidebooks)

VOLKOVA, K. V.

"Studies Of The Natural Process Of Mutation. Rate Of The Mutation Process In Males And Females In Different Stocks Of Drosophila Melanogaster. Laboratory Of Genetics (Chief: Academician A. S. Serebrovskii), Moscow State University." (p. 571) by Shapira, N. I. And Volkova, K. V.

SO: PREDECESSOR OF JOURNAL OF GENERAL BIOLOGY. (Biologicheskii Zhurnal) Vol. VII, 1938 No. 3

VOLKOVA, K.I., red.

[Use of the rivers of the Ob'-Irtysh basin for transportation] Transportnoe ispol'zovanie rek Ob'-Irtyshskogo basseina. Novosibirsk, Red.-izd. otdel Sibirskogo otdniia AN SSSR, 1965. 99 p. (MIRA 18:5)

1. Akademiya nauk SSSR. Sibirskiy nauchno-issledovatel'skiy institut energetiki.

SHKALIKOV, Nikolay Sergeyevich; GRIGOR'YEV, V.; VOLKOVA, K.V., red.

[The West Siberian Economic Region] Zapadno-Sibirskii ekonomicheskii. Novosibirsk, Zapadno-Sibirskoe knizhnoe izd-vo, 1963. 62 p. (MIRA 18:5)

1. Nachal'nik planovo-ekonomicheskogo upravleniya sovnarkhoza "Zapadno-Sibirskiy" (for Shkalikov).

KUDRAVTSEVA-MOLODCHIKOVA, Larisa Pavlovna; AVRAMENKO, I., red.; VOLKOVA, L., red.

[History of an apple trees; true stories on the wonderful life of a fruit tree] Istoriia odnoi iablon'ki; pravdivye rasskazy ob udivitel'noi zhizni plodovogo dereva. Moskva, Molodaia gvardiia, 1964. 126 p. (MIRA 17:4)

KOLESNIKOVA, Lyudmila, yunatka; GRITSENKO, Valya, yunatka; VOLKOVA, Lyudmila, yunatka; OBOTINA, Lyudmila, yunatka

"Herald of the young naturalist." IUn.nat. no.4:20-21 Ap '62. (MIRA 15:4)

1. Man'kovskaya srednyaya srednyaya shkola Chertkovskogo rayona (for Kolesnikova). 2. Yegorlykskaya srednyaya shkola, Yegorlykskiy rayon (for Gritsenko). 3. Kagal'nitskaya 8-letnyaya shkola Kagal'nitskogo rayona (for Volkova). 4. Gigantovskaya srednyaya shkola-internat No.2 Sal'skogo rayona (for Obotina).
(Nature study)

VOLKOVA, L.A.; YUSHKIN, G.V.

Tularemia in Orenburg Province; preliminary report. Zhur.mikrobiol., epid.i immun. 32 no.12:56-60 D '61. (MIRA 15:11)

1. Iz Orenburgskoy oblastnoy sanitarno-epidemiologicheskoy stantsii.
(ORENBURG PROVINCE--TULAREMIA)

ZHAMIN, V.A.; VOLKOVA, L.A.; RUBIN, B.A.; GORLENKO, M.V.; PARSADANOVA, K.G., red.; GRIGORCHUK, L.A., tekhn.red.

[Problems in the development of agricultural science in the Chinese People's Republic] Nekotorye voprosy razvitiia sel'skokhoziaistvennoi nauki v KNR. Moskva, Gos.izd-vo "Vysshaia shkola," 1959. 293 p. (MIRA 13:7)
(China--Agriculture)

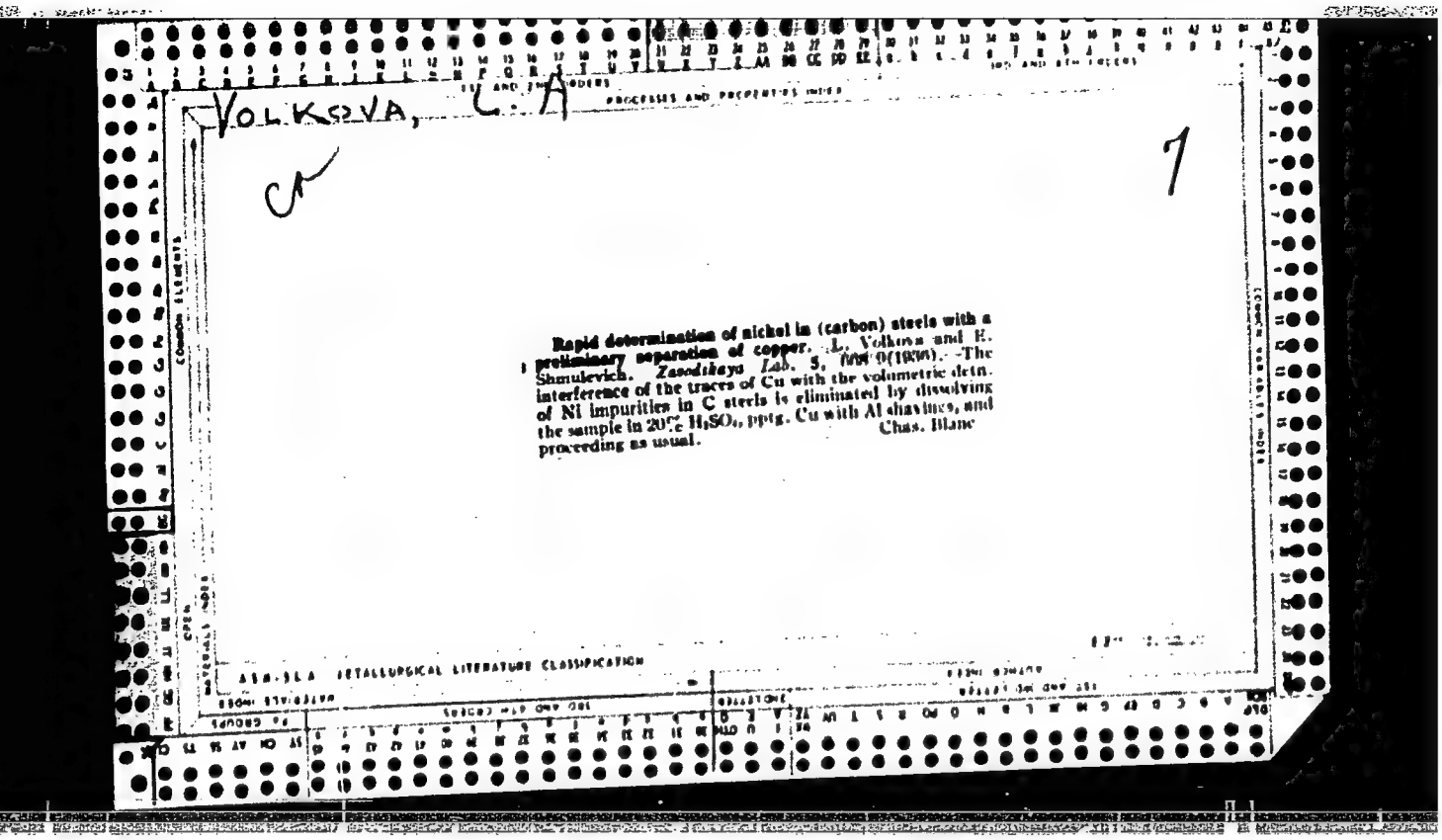
VOLKOVA, L.A.

Materials on the biology of young whitefishes in Lake Baikal. Trudy Gidrobiol. ob-va 13:225-234 '63. (MIRA 16:11)

1. Baykal'skaya biologicheskaya stantsiya Biologo-geograficheskogo instituta pri Irkutskom universitete imeni Zhdanova, pos. Listvenichnoye.

KRASNOVA, A.K.; SMIRNOVA, A.V.; VOLKOVA, L.A.

Methods of revealing the actual austenite grain in steel. Sbor. trud. TSNIICHM no.32:51-55 '63. (MIRA 16:12)



GOLOVA, O.P.; NOSOVA, N.I.; ANDRIYEVSKAYA, Ye.A.; VOLKOVA, L.A.

Mechanism of cellulose oxidation by atmospheric oxygen in alkaline medium. New data on relation between the physical structure of cellulose and regularities of its degradation in the course of oxidation by atmospheric oxygen in alkaline medium. Vysokom. soed. 7 no.9:1619-1625 S '65.
(MIRA 18:10)

1. Institut vysokomolekulyarnykh soyedineniy AN SSSR.

NOSKOV, F.S.; BOLDASOV, V.K.; GOL'DIN, R.B.; YERMAKOV, N.V.; VOLKOVA, L.A.

Contrast method of immunofluorescent discovery of adenoviruses in the kidney cell culture of guinea pigs. Vop. virus. 10 no.5:613-614 S-O '65. (MIRA 18:11)

1. Voyenno-meditsinskaya ordena Lenina akademiya imeni S.M. Kirova, Leningrad.

SHVETS, V. I.; ANTAL, Laslo; VOLKOVA, L. A.; PREOBRAZHENSKIY, N.A.

Complex lipids. Synthesis of optically adtive dextrorotatory (natural) and racemic dilinoleoyl-α-lecithins. Zhur. ob. Khim. 34 no.6:1908-1911 Je '64. (MIRA 17:7)

1. Moskovskiy institut tonkoy khimicheskoy tekhnologii imeni Lomonosova.

SOV/137-59-5-9923

Translation from: Referativnyy zhurnal, Metallurgiya, 1959, Nr 5, p 67 (USSR)

AUTHORS: Malkin, I.P., Volkova, L.A., Ruzhitskiy, V.I.

TITLE: Smelting Stainless and Heat Resistant Steels at the Uralmashzavod

PERIODICAL: Sb. statey. Ural'skiy z-d tyazh. mashinostr. im. S. Ordzhonikidze, 1958, Nr 3, pp 52 - 61

ABSTRACT: Information is given on the experience made in the production of stainless and heat resistant steels at the Uralmashzavod. In the production of certain steel grades the following methods were used: vacuum treatment of the metal in the ladle or degassing of the metal flow in a vacuum during the transfer from one ladle into another, and teeming in a neutral gas medium. In casting ingots for forgings, molds having a triple conicity of the side walls (5.1; 15.9 and 94% from top to bottom) and a spherical bottom were employed. Ingots, cast in such molds proved to be more compact and homogeneous.

Card 1/1

V.B.

KOROTKOV, A.A.; MITSENGENDLER, S.P.; KRASULINA, V.N.; VOLKOVA, L.A.

Synthesis of polymethyl methacrylate of regular structure. Vysokom. soed. 1 no.9:1319-1326 S '59. (MIRA 13:3)

1. Institut vysokomolekulyarnykh soyedineniy AN SSSR.
(Methacrylic acid)

VOLKOVA, L.A.

Tides in a canal encircling the globe. Trudy MGI 17:41-47 '59.
(MIRA 12:10)

(Tides)

VoLKova, L.A.

25(1) PHASE I BOOK EXPLOITATION SOV/3421

Akademiya nauk UkSSR, Kiyev, Institut elektrosvarki imeni akademika Ye.O. Patona

Vnedreniye novykh sposobov svarki v promyshlennost', vyp. 2 (Introduction of New Welding Methods in Industry; Collection of Articles, No. 2) Kiyev, Gos. izd-vo tekhn. lit-ry Ukrainskoy SSR, 1959. 194 p. Errata slip inserted. 3,000 copies printed.

Ed.: V. Gartusha; Tech. Ed.: S. Matusevich.

PURPOSE: This book is intended for workers in the welding industry.

COVERAGE: The book contains a discussion of welding techniques and problems by groups of scientists and welders. Much attention is given to problems in the application of new methods of mechanized welding and electro-slag welding. This is the second collection of articles under the same title prepared and published by the Institut elektrosvarki imeni Ye.O. Patona (Institute of Electric Welding imeni Ye.O. Paton). The preface is written by B.Ye. Paton, Academician of the Ukrainian Academy of Sciences and Winner of the Lenin Prize. There are no references.

Yakra, A. S. [Engineer], Yu. A. Sternenbogen [Candidate of Technical Sciences], V. M. Khrundzhe [Engineer; Institut elektrosvarki imeni Ye.O. Patona (Electric Welding Institute imeni Ye.O. Paton)], D. P. Antonets [Engineer, Zhdanovskiy zavod imeni Il'icha (Plant imeni Il'ich in Zhdanov)], V. I. Rabinovich [Engineer; Barnaul'skiy kotel'nyy zavod (Barnaul Boiler Plant)], and V. V. Chernykh [Engineer; Novo-Kramatorskiy mashinostroitel'nyy zavod (New Kramatorsk Machinery Plant)]. Electro-slag Welding of Steel-plate Constructions 17

Isaiev, A. S. [Senior Engineer], A. M. Makara [Candidate of Technical Sciences], and I. V. Kirikov [Senior Engineer; Institut elektrosvarki imeni Ye. O. Patona (Electric Welding Institute imeni Ye. O. Paton)]. Making Bodies for Chemical Equipment by Electro-slag Welding of Medium-alloyed Steel Forgings 32

Medovar, B. I. [Candidate of Technical Sciences], A. N. Safonnikov [Engineer; Institut elektrosvarki imeni Ye. O. Patona (Electric Welding Institute imeni Ye. O. Paton)], and I. N. Gerasimenko [Head of Welding Department; Podol'skiy mashinostroitel'nyy zavod imeni S. O. Ordzhonikidze (Podol'sk Machinery Plant imeni S. O. Ordzhonikidze)]. Electro-slag Welding of Large Flanges of [illegible] Austenitic Steel 51

Gurevich, S. M. [Candidate of Technical Sciences], V. P. Didkovskiy [Engineer; S. D. Zagrebenyuk [Engineer; Institut elektrosvarki imeni Ye. O. Patona (Electric Welding Institute imeni Ye. O. Paton)], P. S. Sinenol'skiy [Head of Welding Office], and V. P. Shuyrev [Technologist of a welding shop]. Electro-slag Automatic Arc Welding of Medium and Large Thickness of Titanium 64

Podhodaya, I. K. [Candidate of Technical Sciences], V. P. Subbotovskiy [Senior Engineer], I. I. Frumin [Candidate of Technical Sciences; Institut elektrosvarki imeni Ye. O. Patona (Electric Welding Institute imeni Ye. O. Paton)], L. A. Volkova [Shop Foreman; Dnepropetrovskiy metallurgicheskiy zavod imeni G. I. Petrovskogo (Dnepropetrovsk Metallurgical Plant imeni G. I. Petrovskiy)], V. P. Gorelov [Shop Superintendent; Alchevskiy metallurgicheskiy zavod imeni K. Ye. Voroshilova (Alchevsk Metallurgical Plant imeni K. Ye. Voroshilov)], and N. A. Rybenko [Chief Mechanic, Magnitogorskiy metallurgicheskiy kombinat (Magnitogorsk Metallurgical Combine)]. Introduction of Automatic Hard-surfacing in the Metallurgical Industry 74

Lashkevich, R. I. [Candidate of Technical Sciences], S. L. Mandel'-berg [Candidate of Technical Sciences; Institut elektrosvarki imeni Ye. O. Patona (Electric Welding Institut imeni Ye. O. Paton)] Z. O. Kiryashinskiy [Candidate of Technical Sciences; Ukrainskiy nauchno-issledovatel'skiy trubnyy institut (Ukrainian Scientific and Research Institute of Pipes)], and S. A. Prikhe [Chief Engineer; Chelyabinskiy trubo-prokatnyy zavod (Chelyabinsk Pipe-rolling Plant)]. New Technique in Straight-seam Welding of Large-diameter Oil and Gas Pipes 94

Gorbunov, G. V. [Engineer; Institut elektrosvarki imeni Ye. O. Patona (Electric Welding Institute imeni Ye. O. Paton)], P. A. Zasko, [Chief Engineer; Svarochno-montazhnyy trest (Welding and Assembling Trust)], and A. E. Buryshev [Chief of the Department of Gas Pipeline Construction; Glavgaz SSSR (Main Administration of the Gas Industry of the USSR)]. Mechanized Methods of Welding in Pipeline Construction 108

Bayevskiy, G. Y. [Candidate of Technical Sciences, Winner of Lenin Prize; Institut elektrosvarki imeni Ye. O. Patona (Electric Welding Institute imeni Ye. O. Paton)], Y. Ya. Marmazaiy [Chief Engineer; Ukrglavneftesbyt (Ukrainian Main Administration for Petroleum Marketing)], and Ye. F. Martinson [Head of Construction and Assembly Administration No. 70; Trust 7, Ministerstvo stroitel'stva RSFSR (RSFSR Ministry of Construction, Trust 7)]. Introduction of the Method for Weldments in the Petroleum Industry 113

NIKITIN, V.N.; VOLKOVA, L.A.; MIKHAYLOVA, M.V.; BAKLAGINA, Yu.G.

Two crystalline modifications of 1,4-trans-polybutadiene. Vysokom. soed. 1 no.7:1094-1099 Jl '59. (MIRA 12:11)

1. Institut vysokomolekulyarnykh soyedineniy AN SSSR.
(Butadiene)

67299

SOV/181-1-8-4/32

5.3831
~~24(4), 24(6)~~

AUTHORS: Bazhenov, N.M., Bykov, M.I., Volkova, L.A., Vol'kenshteyn, M.V.

TITLE: Photoelastic Effect in Polymethylmethacrylate, Polybutylmethacrylate, and Polyvinylacetate

PERIODICAL: Fizika tverdogo tela, 1959, Vol 1, Nr 8, pp 1179-1187 (USSR)

ABSTRACT: The authors investigated the kinetics of the internal rotation in polymers by the method of photoelasticity which at the same time allowed measurement of birefringence and strain with a constant true stress on the sample. The authors were interested in the relaxation phenomena in organic glasses. M.N.Zhurina and O.N.Trapeznikova (Ref 1) had obtained important data on internal rotation. In the present work two types of polymethylmethacrylate differing in their way of production and in their temperature of vitrification. The photoelastic effect was investigated in a wide range of deformations and temperatures by means of a device described already earlier (Ref 4). The most important results which are given in several diagrams are the increase of negative birefringence during cooling and its decrease and transition to positive values when the polymethylmethacrylate samples are heated. Both polymethylmethacrylate

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67299

Photoelastic Effect in Polymethylmethacrylate, Polybutylmethacrylate, and Polyvinylacetate SOV/181-1-8-4/32

types have a hysteresis with an extraordinary course, namely, counterclockwise. In the case of repeated passing of the heating and cooling cycles in one and the same polymer sample the same hysteresis loops are obtained. A stronger strain of the polymer sample renders temperature dependence more stringent. The photoelastic effect Δt reaches saturation already with relatively small deformations. In the case of heating and strain of the stretched polyvinylacetate film birefringence depends only slightly on temperature, which holds also in the stretching of polybutylmethacrylate films. When the stretched polybutylmethacrylate films are heated or cooled, a temperature dependence of birefringence in the case of fixed final expansion was not observed. The birefringence hysteresis of polymethylmethacrylate observed in heating and subsequent cooling is indicative of a non-uniform relaxation behavior of the polymer under the present experimental conditions. The elementary theory of birefringence relaxation is based on a kinetic equation. Polymethylmethacrylate anisotropy is obviously caused only by anisotropy of the lateral $COOCH_3$ and CH_3 groups. CH_3 groups

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Photoelastic Effect in Polymethylmethacrylate, Polybutylmethacrylate, and Polyvinylacetate SOV/181-1-8-4/32

obviously cause positive birefringence. Negative birefringence is caused by the highly isotropic double bond C=O which lies in the plane perpendicular to the strain plane of the chain. Besides, negative birefringence of polyvinylacetate is determined only by the carbonyl group. The "anomalous" hysteresis found in polymethylmethacrylate is caused by the existence of two relaxation mechanisms with highly differing relaxation times. These mechanisms are related with the structure of the polymethylmethacrylate chain. The polymethylmethacrylate sample with higher vitrification temperature shows a shift of the temperature course of birefringence toward higher temperatures. The absence of hysteresis phenomena in polybutylmethacrylate and polyvinylacetate may be explained by the structure of these polymers. There are 14 figures, 1 table, and 6 Soviet references.

ASSOCIATION: Institut vysokomolekulyarnykh soyedineniy, AN SSSR, Leningrad (Institute of High-molecular Compounds of the AS USSR, Leningrad)

SUBMITTED: August 1, 1958

Card 3/3

NIKITIN, V.N.; MIKHAYLOVA, N.V.; VOLKOVA, L.A.

Crystallization of stereoregular polymethyl methacrylate. Vysokom. soed. 7 no.7:1235-1240 Jl '65. (MIRA 18:8)

1. Institut vysokomolekulyarnykh soyedineniy AN SSSR.

L 2498-66 EWT(m)/EWP(j)/T RM

ACCESSION NR: AP5022611 UR/0190/65/007/009/1619/1625
661.728+678.01:54

AUTHORS: Golova, O. P.; Nosova, N. I.; Andriyevskaya, Ye. A.; Volkova, L. A.

TITLE: Mechanism of cellulose oxidation with atmospheric oxygen in an alkaline medium. New data on the relation between the physical structure of cellulose and the course of its degradation on oxidation by atmospheric oxygen in an alkaline medium

SOURCE: Vysokomolekulyarnyye soyedineniya, v. 7, no. 9, 1965, 1619-1625

TOPIC TAGS: cellulose, oxidation, oxidative degradation, synthetic fiber, x ray diffraction

ABSTRACT: The rate of oxidative decomposition of cellulose in an alkaline medium was studied as a function of its physical structure (the number of the regions of orderly, compact structure and regions of disorderly structure). This work was performed as an amplification of the authors' earlier observations (Sb. Tsellyuloza i yeye proizvodnyye. Izd. AN SSSR, 1963, str. 110). These observations indicated that, when the effect of carbonyl groups upon the oxidative process is

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excluded, the decomposition of regenerated cellulose (I) is much more rapid (20-30%) than that of the natural cellulose (II) (6%). It was found by means of x-ray diffraction that the two celluloses, identical in their chemical structure, differ in their degree of order (the natural material having a considerably more orderly structure). Hydrolysis of I with 2% solution of HCl at 100C for 70 minutes increased the degree of order and reduced the rate of oxidative decomposition to 8%. Decrease of the orderliness in II by treating it with 12% solution of NaOH at 0C resulted in weight losses of 12-18% upon oxidation. It was established that the oxidative decomposition occurs with participation of hydroxyl groups located in the disorderly region, and is accompanied by formation of peroxides. The authors express their gratitude to V. A. Kargin for his participation in evaluation of the results obtained and to V. I. Mayboroda for the specimens of high quality fiber. Orig. art. has: 2 tables and 2 figures.

ASSOCIATION: Institut vysokomolekulyarnykh soyedineniy, AN SSSR (Institute of High Molecular Compounds, AN SSSR)

SUBMITTED: 26Oct64 ENCL: 00 SUB CODE: OC, GC

NO REF SOV: 015 OTHER: 008

Card 2/2

[illegible]DVA, N.I.; KULAKOVA, O.M.; MATVEYEVA, N.A.; VOLKOVA, L.A.

Action of the primary aliphatic amines on the structure and reactivity of cotton cellulose fibers. Zhur. prikl. khim. 38 no.4:919-925 Ap '65. (MIRA 18:6)

1. Institut vysokomolekulyarnykh soyedineniy AN SSSR.

15.9100
~~15 (9)~~

67314

AUTHORS: Volkova, L. A., Vol'kenshteyn, M. V. SOV/181-1-8-19/32

TITLE: Radiographic Investigation of the Swelling of Natural Rubber

PERIODICAL: Fizika tverdogo tela, 1959, Vol 1, Nr 8, pp 1272 - 1278 (USSR)

ABSTRACT: The ability of the crystalline polymers to undergo specific recrystallization when under strain, which has been found by V. A. Kargin and T. I. Sogolova (Ref 4), is closely connected with the presence of crystalline and amorphous substances in the polymer. The authors do not agree with Kargin and G. L. Slonimskiy (Ref 1) who assume that crystalline and amorphous modification in the polymer are in equilibrium. V. A. Kargin, A. I. Kitaygorodskiy, and G. L. Slonimskiy put forward a new interpretation concerning the amorphous phase of the polymers. The present paper deals with kinetic disturbances in polymer crystallization. In the authors' laboratory B. Z. Volchek (Ref 8) investigated the effect of heat upon the content of amorphous substance in a polymeric polycrystal. The first part of the present paper deals with experiments. Natural rubber, crystallized during storage, served as test object, kerosene as solvent. The radiographic method is based upon a micro-

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Radiographic Investigation of the Swelling of Natural Rubber SOV/101-1-8-19/32

photometric comparison between the intensities of the amorphous halos in the radiograms of a perfectly amorphous rubber and of a partly crystalline solidified or strained rubber. Applying this method the authors determined the "degree of crystallization" of natural rubber with various degrees of swelling in kerosene.. Three tables illustrate the degree of crystallization of the swollen rubber, data on a sample for increasing swelling up to 17%, and data on a number of rubber samples with different degree of swelling. In the case of low swelling degree (3.5 to 7%) the radiograms of the rubber samples resemble those of non-swollen crystalline rubber but the intensity of the rings increases. In the case of further swelling, intensity and sharpness of the rings decreases. However, the intensity of the amorphous halo decreases. With a swelling of up to about 15 to 20% the crystal interferences vanish completely. When natural rubber swells in kerosene, the degree of crystallization passes through a maximum and then gradually decreases towards zero. The distances between the separate crystal faces do not change during swelling. The solvent does not penetrate into the crystal lattice of the polymer but into its amorphous regions. The reduction of

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the crystalline part in highly swollen samples may be interpreted to be a melting of the crystalline polymer when a low-molecular solvent is present. For slight swellings the "degree of crystallization" is explained by the anisotropy of the amorphous part of the polymer. The introduction of a solvent reduces the strains in the amorphous part of the polymer and allows the chains to approach equilibrium. The absence of an observable effect in the desorption of the solvent from the swollen rubber sample may also be explained by the kinetics of crystallization. There are 3 tables and 12 references, 7 of which are Soviet.

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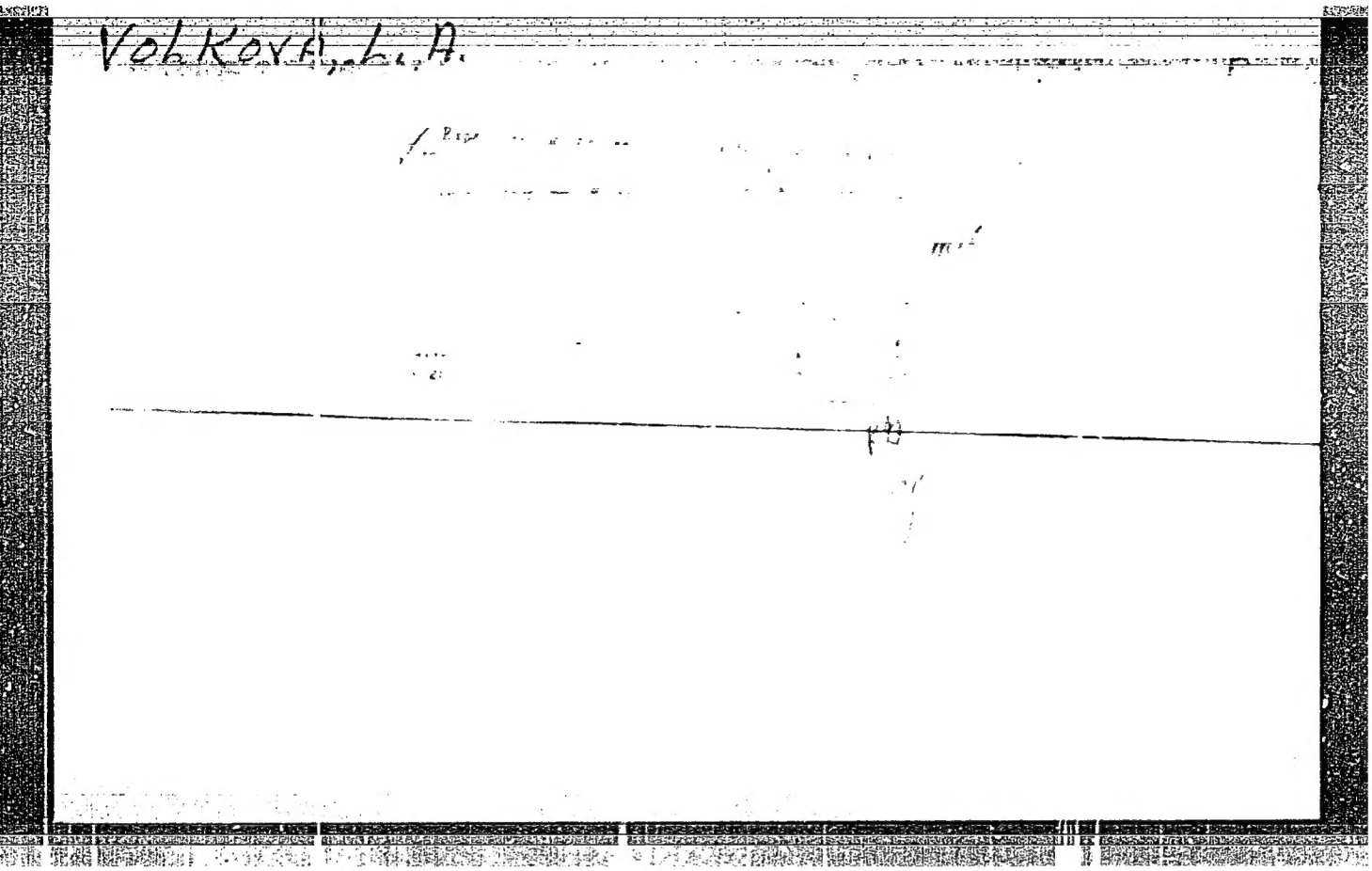

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